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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/647,784	10/05/2000	Juha Rasanen	PM 273950	4022

909 7590 06/14/2004

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EXAMINER

SCHEIBEL, ROBERT C

ART UNIT PAPER NUMBER

2666

DATE MAILED: 06/14/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/647,784

Applicant(s)

RASANEN, JUHA

Examiner

Robert C. Scheibel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9,11-17,19-26,28,29 and 31-35 is/are rejected.
- 7) ☒ Claim(s) 10,18,27 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Examiner acknowledges the receipt of the Declaration under Rule 131 and supporting evidence.
2. Applicant's arguments, see page 17, filed 3/29/04, with respect to the objections to Figure 13 have been fully considered and are persuasive. The objection of 10/28/03 has been withdrawn.
3. The response to the office action refers to an attached abstract on a separate sheet of paper. However, the abstract referred to was not received in the office. Applicant is requested to resubmit the abstract with the response to this office action.
4. The amendments made to the specification overcome the objections made in the previous office action.
5. Applicant's arguments, see page 17, filed 3/29/04, with respect to objections to claims 5-8, 16-17, and 22-23 have been fully considered and are persuasive. The objection of claims 5-8, 16-17, and 22-23 has been withdrawn.
6. Applicant's arguments, see page 17, filed 3/29/04, with respect to the rejection of claim 2 under 35 U.S.C 112 have been fully considered and are persuasive. The rejection of claim 2 under 35 U.S.C. 112 has been withdrawn.
7. Applicant's arguments, see pages 17-18, filed 3/29/04, with respect to the rejection of claims 1, 13, and 19 under 35 U.S.C 102 (e) have been fully considered but they are not persuasive. Applicant alleges that the data signal and voice signal of Akoi

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are separate traffic channels and that this approach is totally different from the claimed invention. Examiner disagrees with this assertion. Based on the broad language of these claims, Akoi anticipates the invention. The single traffic channel is the time slot that is shared between 2 calls (the data and voice signals). The original rejection is maintained.

8. Applicant's arguments see page 18, filed 3/29/04, with respect to the rejection of claims 1, 6, 8, 13, 15, 17, 19, and 21 under 35 U.S.C 102 (e) have been fully considered but they are not persuasive. Applicant alleges that Roobol is not prior art; specifically, applicant alleges that the provisional application of Roobol fails to contain the subject matter relied upon in the rejection. Examiner disagrees with this assertion. While the provisional application is written in a different format, it does contain the subject matter relied upon in the rejection below. The applicant is requested to indicate the specific subject matter at issue if this argument is made in a subsequent response to this office action. The original rejection is maintained.

9. Applicant's arguments, see page 18, filed 3/29/04, with respect to the rejection of claims 1, 5, 7, 13, 15, 16, 18, 19, 21, 22, and 30 have been fully considered and are persuasive. The specific rejection of claims 1, 5, 7, 13, 15, 16, 18, 19, 21, 22, and 30 has been withdrawn.

10. Applicant's arguments, see page 18, filed 3/29/04, with respect to the rejection of claims 9, 10, 26, and 27 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further

consideration, a new ground of rejection is made in view of U.S. Patent 6,081,536 to Gorsuch in view of U.S. Patent 5,583,869 to Grube, et al. (See details below.)

11. Applicant's arguments see page 19, filed 3/29/04, with respect to the rejection of claims 1-3, 13-14, 19-20, and 24 have been fully considered but they are not persuasive. Applicant argues that Gorsuch merely discloses a single ISDN connection over a single traffic channel from the CDMA perspective. However, based on the broad language of these claims, examiner disagrees and maintains that the calls originating from elements 112-x in Figure 1 are separate calls sharing a single traffic channel. The original rejection is maintained.

12. Applicant's arguments, see page 19, filed 3/24/04, regarding the rejection of claims 1, 4, 5, 13, 15, 16, 19, 21, 22, and 25 have been fully considered but they are not persuasive. Applicant alleges that the transmission delay requirements of the synchronous transmission are not met. Applicant also argues that Rotter teaches distinguishing between synchronous and asynchronous data packets. However, examiner contends that based on the broad claim language, Rotter anticipates the invention as claimed. Logical connections LC1 and LC2 are the 2 calls sent over a common traffic channel. The original rejection is maintained.

13. Applicant's arguments, see pages 19-20, filed 3/29/04, regarding the rejection of claims 11-12 and 28-29 have been fully considered but they are not persuasive. Applicant alleges that Tracy only teaches replacing of "dummy" packets with useful data and has nothing to do with the claimed invention. However, examiner disagrees; Tracy teaches the limitations not taught by Gorsuch, making these limitations obvious over

Gorsuch. As specified in the rejection below and in the original office action, the “dummy” packets and their replacement by useful traffic teach the limitations of claims 11-12, 28-29. The original rejection is maintained.

Specification

14. This application does not contain an abstract of the disclosure as required by 37 CFR 1.72(b). An abstract on a separate sheet is required.

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

16. Claims **1**, **13**, and **19** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 5,757,792 to Akoi, et al.

The limitations of these claims are taught in Figures 3 and 6 of Akoi where the two or more simultaneous calls are the voice signal as one call and the data signal as another call. Both of these calls are sharing the capacity of a common traffic channel (a TDMA timeslot as shown in figure 5) through the methods shown in these figures.

17. Claims **1, 6, 8, 13, 15, 17, 19, 21, and 23** are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,363,058 to Roobol, et al.

Specifically, the two or more simultaneous calls of claims 1, 6, 8, 13, 17, and 19 are anticipated by the service access points 125a, 125b, and 125c of Figure 4 of Roobol. The common traffic channel is anticipated by the communications link 4 of Figure 1 of Roobol. The sharing of capacity is anticipated by the method of mapping logical channels to physical channels shown in Figure 3 of Roobol.

The limitation of claims 15 and 21 of separate sub-channels or each call is anticipated by the sub-channels formed by the LLC 30 and RLC 35 blocks of Figures 2 and 4 of Roobol. The user data for each call or service access point is transmitted in the streams created by these layers as described in column 3, lines 32-35 "The RLC protocol 35 provides a stream of specifically classified data which is channel encoded and interleaved via a multiplexer 45 before being mapped onto a logical channel 40." In this case, the stream is in fact sub-channel.

The dedicated radio link protocol or link access control protocol of claims 6, 17, and 23 are also anticipated by the LLC 30 and RLC 35 blocks of Figures 2 and 4 of Roobol. The streams described in column 3, lines 32-35 are also logical channels.

The dedicated radio link protocol or link access control protocol of claim 8 is anticipated by the LLC 30 and RLC 35 blocks of Figures 2 and 4 of Roobol as stated in the preceding paragraph. The further limitation of transmitting packet data encapsulated in a protocol frame is anticipated by figure 5 and in the text from line 65 of column 4 to line 7 of column 5.

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18. Claims 1, 2, 3, 13, 14, 19, 20, 24 and 31-35 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 6,081,536 to Gorsuch et al.

Specifically, the two or more simultaneous calls of claims 1, 2, 13, 14, 19, 20, 31, 33, and 35 are anticipated by the calls originating from elements 112-1, 112-2, 112-3, 112-x, and 110 of Figure 1. These calls share the capacity of the traffic channel formed by the link 160-1 or 160-2 of Figure 1.

Gorsuch anticipates the dynamic adjustment of the channel capacity claimed in claims 2, 14, and 20 throughout the patent. One example is in the abstract of Gorsuch: "Bandwidth is allocated dynamically within a session to specific CDMA subscriber unit based upon data rate determinations". Another example is found in column 2, lines 31-34: "The instantaneous bandwidth needs of each on-line subscriber unit are met by dynamically allocating multiple subchannels of the RF carrier on an as needed basis for each session".

The steps and means of claims 3 and 24 are anticipated by parts of figure 5 as detailed below. The step and means of assigning the common traffic channel when the call(s) are first set up are anticipated by state 504 of figure 5. The step and means for increasing or reallocating capacity when a new call is added are anticipated by state 514 of figure 5. The step and means for decreasing capacity when a call is cleared is anticipated by state 522 of figure 5. The step and means for releasing the common traffic channel after the last call is cleared is anticipated by state 512 of figure 5.

The limitations of claims 32 and 34 that at least one of the calls is a packet data call is disclosed in the call initiated by station 110 of Figure 1.

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19. Claims **1, 4, 5, 13, 15, 16, 19, 21, 22, and 25** rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent 5,901,143 to Rotter, et al.

Specifically, the two or more calls of claims 1, 5, 13, 16, and 19 are anticipated by the logical connections LC1 and LC2 of Rotter. These connections share the capacity of the "broadband link" discussed throughout Rotter. (As an example, see the first sentence of the abstract: "The invention concerns a method of operating a broadband link for the exchange of data (DAT) between a mobile terminal (MS) and a network-side mobile radio facility (MSC)").

The limitation of claims 4 and 25 regarding the type of the simultaneous calls is anticipated throughout Rotter. Figure 2 is a good example of this as logical channel LC1 is non-transparent and logical channel LC2 is transparent. This is described in more detail from column 6, line 60 through column 7, line 16.

The limitations of claims 5, 16, and 22 are anticipated as demonstrated below. The limitation of establishing one radio link protocol is anticipated by the preferred embodiment of Rotter in which the logical connections discussed above are transmitted using a modified radio link protocol (MRLP). For example, consider lines 11-13 of column 3: "The basic idea of the invention for the data transport is to introduce one or more additional packet types in a protocol which functionally corresponds to the MRLP protocol". The limitation of a logical channel for each connection and transmitting user data via the respective logical channel is anticipated by logical connections LC1 and LC2. Rotter indicates that the user data is transmitted on these connections in lines 62-65 of column 6: "The logic connection LC1 is formed by the exchange of type A useful

data packets FRDAT1 and the logical connection LC2 is formed by the exchange of type B useful data packets FRDAT2”.

The limitation of separate subchannels of claims 15 and 21 is anticipated by the subchannels RC1 through RCN of Rotter.

Claim Rejections - 35 USC § 103

20. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

21. Claims **11, 12, 28, and 29** rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,081,536 to Gorsuch, et al in view of U.S. Patent 6,014,089 to Tracy, et al.

Gorsuch discloses the limitations of claims 1 and 19 as stated in the rejection above. Gorsuch does not disclose the limitations of claims 11 and 28 of using temporarily unused resources for traffic of another connection. Gorsuch also does not disclose the limitations of claims 12 and 29 of detecting and deleting filler, using the capacity for traffic from another connection and then returning the filler at the receiver.

Tracy teaches the limitations of claims 11, 12, 28, and 29. Specifically, the step of monitoring the traffic channel of claims 11 and 28 is taught in lines 62-66 of column 5 of Tracy: “The control channel packet assembler/disassembler 105 continuously monitors the data streams and can separate the control channel transmission packets

necessary for system control or other system information from other channel transmission packets with other characteristics". The detecting that there is temporarily no traffic and using the temporarily unused resources of claims 11 and 28 is taught in lines 29-31 of column 6: "the present invention utilizes removal of the "dummy" packets that contain no information and replacing these packets with diverted transmission packets". Identifying the "dummy" packets for removal constitutes detecting that there is no useful traffic for this link and replacing these packets is using the temporarily unused resources. Further, lines 29-43 of column 6 teach the limitations of claims 12 and 29. The "dummy" packets are the filler in this case and must be detected in order to replace them. This anticipates the step of detecting the filler. Tracy teaches replacing the "dummy" packets, which anticipates the steps of deleting and transmitting in place of the filler. Finally, teaches reinserting the "dummy" packets in lines 38-40 of column 6: "The diverted transmission packets are replaced with "dummy" transmission packets making the operation of this system transparent to the MSC 103".

Gorsuch and Tracy are analogous art because they are from the same field of endeavor of transmitting data in a mobile wireless system.

At the time of the invention it would have been obvious to a person of ordinary skill in the art to modify Gorsuch to make use of unused or filler capacity for the transmission of additional data on the radio channel. The motivation for doing so would have been to take advantage of the under utilized capacity in the radio channel. This is suggested by Tracy in lines 54-59 of column 6: "there are times when the control channel is not in use by the digital GSM, PACS, FDMA, CDMA or TDMA

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communications network. During this non-use time, the data collection device 101 is capable of transmitting data over the network system without interfering with other control channel transmissions”.

Therefore, it would have been obvious to combine Tracy with Gorsuch for the benefit of using under utilized capacity to obtain the invention as specified in claims 11, 12, 28, and 29.

22. Claims **9 and 26** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,081,536 to Gorsuch in view of U.S. Patent 5,583,869 to Grube et al.

Gorsuch discloses the limitations of claims 1 and 19 as stated in the rejection above. Gorsuch does not disclose expressly the limitations of claims 9, 10, 26, and 27 of detecting that more capacity is unavailable, reallocating the existing capacity and allocating the requested capacity at a later time.

Grube discloses the limitations of claims 9 and 26 in Figure 3. Specifically, the limitation of claims 9 and 26 of detecting when the mobile network is unable to allocate more transmission capacity is disclosed in steps 302 and 303. The step of allocating the available capacity to the calls is disclosed in step 306. The limitation of allocating the requested capacity to the common traffic channel later when capacity becomes available is disclosed in lines 55-57 of column 5 which indicates that this flow (in figure 3) will be run at a later point in time and that if additional capacity is available at that time, it will be allocated at that (later) point in time in step 307.

Gorsuch and Grube are analogous art because they are from the same field of endeavor of sharing limited communication capacity in a wireless system.

At the time of the invention, it would have been obvious to a person skilled in the art to use the concept of reallocating channel capacity when no additional capacity is available to modify Gorsuch to obtain the invention as specified in claims 9 and 26.

The motivation for doing so would have been to allow wireless systems to dynamically allocate resources on an as needed basis to efficiently handle changing service requirements as suggested by Grube in lines 26-32 of column 2.

Therefore, it would have been obvious to combine Grube with Gorsuch for the benefit of dynamically allocating system resources to obtain the invention as specified in claims 9 and 26.

Allowable Subject Matter

23. Claim 18 allowed.

24. Claims 10, 27, and 30 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

25. The following is a statement of reasons for the indication of allowable subject matter: the prior art relied upon in the previous office action is no longer prior art in view of the Declaration submitted under 37 CFR 131. In addition, the prior art of record fails to teach all of the limitations of these claims.

26.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert C. Scheibel whose telephone number is 703-305-9062. The examiner can normally be reached on 6:30-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema S. Rao can be reached on 703-308-5463. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RCS 6-8-04

Robert C. Scheibel
Examiner
Art Unit 2666

DM

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